

Bearkat 1 Steams To Commercial Operation

The 197.6 MW wind farm is the first of many projects involving Texas-based developer Tri Global Energy and Danish investor Copenhagen Infrastructure Partners.

By Mark Del Franco

Deep in the heart of West Texas oil and gas country, construction crews are feverishly working to complete the 197.6 MW Bearkat 1 Renewable Energy Project.

The wind farm, located among the oil and gas rigs dotting the West Texas landscape between Midland and Odessa, is among the initial U.S. wind farms owned by Danish investor Copenhagen Infrastructure Partners (CIP). The firm acquired Bearkat 1 as part of a nearly 1 GW wind portfolio from Texas-based developer Tri Global Energy in 2016.

Construction activities at the wind farm have gone according to plan, reports Mark Winstead, U.S. renewables division manager at Black & McDonald, the wind farm's engineering, procurement and construction (EPC) services provider. At press time, Winstead said that the foundations were being poured, the access roads were nearing completion, and construction on the wind farm's substation had commenced. Nonetheless, extreme temperatures forced the EPC services provider to modify some construction activities in order to keep the project on schedule.

"Lately, we've had several days of 100-degree temperatures, which forced us to change up the normal processes," said

Winstead. "We might start at night or very early in the morning to avoid working in the heat."

High temperatures also require Black & McDonald to keep foundations cool.

"We are running chillers and continually watering the aggregate," he noted. "We're also running a higher-strength mix to expedite curing so we can get [foundations] backfilled sooner. That helps protect the curing concrete from excessive surface temperatures."

Bearkat 1 will be powered by 66 Vestas V126-3.45 MW wind turbines, which are slated to arrive next month.

For his part, Winstead looks forward to the arrival of the Vestas V126-3.45 MW turbines. Because the Vestas V126 machines only operate in Texas, Michigan and Oklahoma, they pose something of a curiosity.

"They're taller, bigger and heavier," Winstead said. Nonetheless, the same lifting requirements apply to the newer rotors as Vestas' legacy machines.

"The newer V126s require three to four days just to prep each nacelle," he said. "So, we've added additional prep crews that will also turn into mechanical completion crews





The white cylindrical flanges will be bolted to the tower section before the turbine components arrive.

Photo courtesy of Tri Global Energy

later, which will allow us to get energization earlier in the schedule.”

Site characteristics

The site has prime wind resources (in the low- to mid-8 m/s range) and easy access to transmission, including a relatively new substation owned by Wind Energy Transmission Texas (WETT), a joint venture between Brookfield Asset Management and the Public Sector Pension Investment Board.

The WETT-Bearkat substation was built to facilitate new generation supporting the load centers of Dallas and Houston as part of Texas’ massive Competitive Renewable Energy Zones project, noted Tom Carbone, a director at Tri Global Energy, which originally developed the site in 2012. As the wind turbines share the site with oil rigs, the multi-megawatt Vestas machines will come in handy, he notes.

“This particular site location has a significant amount of oil and gas activity,” he explained. “Therefore, the site benefits from having more power per tower.”

Carbone said Bearkat 1 also benefits from having a “unidirectional” wind resource.

“The wind at Bearkat is very narrow in its directionality and largely comes from a specific [direction] from the south/southwest,” he said. “The turbines are programmed to hunt for the best wind and will likely take a majority of time facing into [that] wind direction.”

Such a unique phenomenon works in the developer’s favor. As a result, Carbone noted, “It allowed us to bring the turbines closer together in an east/west orientation while also reducing the [length] of the collector system.”

About CIP

Bearkat is among CIP’s initial land-based wind projects in the U.S.; therefore, company representatives are keeping a watchful eye on how wind farm construction is performed in the U.S. and specifically in Texas.

CIP, which was founded in 2012, focuses on long-term investments in energy and infrastructure assets, primarily in Western and Northern Europe, as well as in North America, noted Christian T. Skakkebaek, senior partner. Its management team includes former DONG Energy executives and has an extensive background in development, structuring and construction. Its diversified holdings and management’s long-term view enable CIP to participate in projects at an early stage of the project lifecycle, take long-term ownership positions, and participate in bridging the financing needs of projects that are not suitable for capital markets or bank financing.

Just the same, the investor is still a relative neophyte when it comes to North America, which is why CIP partners with more experienced local developers, such as Tri Global Energy, during a project’s early development stages.

As Bearkat’s construction takes shape, its new owners are keeping a watchful eye.

“[CIP is] asking why certain things are done and when,” said Black & McDonald’s Winstead. “They are very interested in construction activities because they plan on developing multiple projects throughout North America.”

The other wind projects in the Tri Global acquisition include Bearkat 2 (162.15 MW), Blue Cloud 1 (150 MW) and Blue Cloud 2 (200 MW). CIP has an option to acquire the 288 MW Changing Winds Energy Project and has supported funding of interconnection studies and other project development tasks, Tri Global noted.

CIP is also working to complete the 155.4 MW Fluvanna wind farm, located in Scurry County, Texas – a joint investment with Terna Energy S.A. Skakkebaek said the Fluvanna wind farm will reach commercial operation a few months before Bearkat.

Nonetheless, Bearkat 1 marks CIP’s first U.S. land-based wind project for which it is the sole equity sponsor. And all eyes are on Bearkat. Just ask Winstead: “Getting the first wind farm done right is imperative.” **INP**